8   POPSTATS CALCULATIONS

8.1   The Popstats program is the part of the CODIS software that permits the calculation of statistical probabilities based on allele frequency information for specific loci. The allele frequency data for all PowerPlex® 1.1, 2.1, and/or 16 BIO System loci entered into CODIS are based on the official Virginia population database and is identical for all four laboratories.

8.2   Use of Popstats for statistical calculations will be in accordance with the policies set forth below, and in accordance with the Commonwealth of Virginia Department of Forensic Science Forensic Biology Section Procedure Manual, Section III - Fluorescent Detection PCR-Based STR DNA Protocol.

   8.2.1   For forensic DNA profiles that are determined to be from only one individual, statistics will be calculated using the "Forensic Single Sample" option within Popstats.

   8.2.2   For forensic DNA profiles that are determined to be mixtures, but the profile of the major contributor can be clearly distinguished, statistics will be calculated on the major profile using the "Forensic Single Sample" option within Popstats.

   8.2.3   For forensic DNA profiles that are determined to be mixtures from which the profile of the major and minor contributors cannot be clearly distinguished, statistics will be calculated using the "Forensic Mixture" option and the Likelihood Ratio (LR) or Combined Probability of Exclusion (CPE) formulas within Popstats.

   8.2.4   Paternity and relationship calculations utilizing Popstats will be reported only by individual(s) designated by the Section Chief.

   8.2.5   In unusual cases, statistical calculations may be conducted using modifications of the "Forensic Single Sample" or "Forensic Mixture" configuration, but only with the explicit permission of the Section Chief.

   8.2.6   The official Virginia population database contains frequencies for the Caucasian ("Cau"), Black ("Blk"), and Hispanic ("His") populations. No other population frequencies will be used for statistical calculation without the explicit permission of the Section Chief.

8.3   No changes to the Popstats configuration parameters or additions/changes to the STR database allele values within Popstats will be made without the explicit permission of the State System Administrator in consultation with the Section Chief.

8.4   The Popstats Report will be maintained in the case file as documentation.

♦**END**